# HEALTH & SAFETY PLAN

# FOR

# ENVIROLOGIC TECHNOLOGIES

# AT

**FORMER ACME INDUSTRIES SITE**
**600-626 N. MECHANIC STREET**
**JACKSON, MICHIGAN**

**August 4, 2011**


Prepared by:

**Envirologic Technologies, Inc.**
2960 Interstate Parkway
Kalamazoo, Michigan 49048
(269) 342-1100

# HEALTH and SAFETY PLAN

## SITE DESCRIPTION

**Estimated Start Date:** August 22, 2011
**Estimated End Date:** August 29, 2011
**Location:** Former Acme Industries Site, 600-626 N. Mechanic, Jackson, MI

**Site History:** Site has been an industrial operation since the mid 1800s. The last industrial operation was Acme Industries, a manufacturer of heating/cooling, and refrigeration systems.

**Operations Area:** entire site
**Response Activity:** Soil investigation to delineate extent of chlorinated solvents.
**Potential Hazards:** Contaminated soil/groundwater contact, slip/trip/fall hazards, air contaminants, drilling hazards, noise, heat, decon operations.

**Level of Protection Required:** Level D (steel toe work boots, rubber boots, disposable protective gloves, hard hats, safety glasses, dust respirators, and hearing protection if necessary). Level B protection (self-contained breathing apparatus) will be on-site if a condition occurs while drilling or sampling.

**Adjacent Properties:** vacant. Goodwill Industries across N. Mechanic Street
**Surrounding Population:** City of Jackson
**Phone Access:** Cell phones are provided to the team leaders. Reception is adequate at the site.

## SCOPE OF WORK

1. Site Investigation

   Soil borings will be placed using drilling techniques. Due to the presence of sandstone, bedrock and shale, drilling techniques employed may include coring as well as traditional hollow-stem auger techniques.

   Soil samples will be collected from various pre-selected locations for laboratory analysis.

**PERSONNEL ORGANIZATION & COORDINATION**

Envirologic Technologies, Inc.: (269) 342-1100

The following personnel are designated to carry out the stated job function(s):

Project Manager – David Warwick: Responsible to the employer, and has complete authority over the project, from start-up to completion. Any changes in the work plan must be authorized by the Project Manager.

Team Leader – Robert Webster: Responsible to the Project Leader and Project Manager, has the authority to implement the work plan and direct procedures as described by the Project Manager.

Site Safety Manager – Robert Webster: Responsible to the employer, and has the authority and knowledge to implement the site safety and health plan, and verify compliance with applicable safety and health requirements.

Safety Manager - David Stegink: Responsible to the employer, and has the authority and knowledge to implement the corporate and site safety and health plans, and to verify compliance with applicable safety and health requirements.

Client Contact: Amy Torres, cell - (517) 262-4799;

State Agency Representatives: Lori Aronoff, MDEQ 517-780-7690
Joe Walczak, MDEQ (on-site)

Local Agency Representatives: None established or required

**Note**: All personnel arriving or departing the site will log in and out with the Recordkeeper. All activities on-site must be cleared with the Project Manager.

The field crew will be briefed on the contents of this plan at the site.

**CHEMICALS OF CONCERN**

The primary constituent of concern is carbon tetrachloride which has been detected in soil above cleanup criteria. One of the cleanup criteria exceeded for this compound is the generic cleanup criteria protective of ambient air inhalation exposures. The purpose of this investigation is to evaluate the extent of this compound in soil. However, other volatile organic compounds have been detected including trichloroethylene, tetrachloroethylene, 1,1-dichlroethylene, cis-1,2-dichloroethylene, and vinyl chloride. Presumably, soil also contains various metals above cleanup criteria

Table 1 depicts the chemicals that may be encountered, their respective exposure limits, and their basic chemical and physical properties. The site worker will have a copy of the *NIOSH Pocket Guide to Chemical Hazards* to be utilized to obtain further information concerning the chemicals:

## TABLE 1

(information from NIOSH Pocket Guide, 2006 edition)

| CHEMICAL | IDLH | OSHA PEL | STEL | LEL | UEL | Flash point | NIOSH |
|---|---|---|---|---|---|---|---|
| **METALS** | | | | | | | |
| Arsenic {metal, arsenia} | Ca [5 mg/m$^3$ | 0.010 mg/m$^3$ | | n/a | n/a | n/a | 20 |
| Barium | **No listing** | | | | | | - |
| Cadmium | Ca [9 mg/m$^3$ | 0.005 mg/m$^3$ | | n/a | n/a | n/a | 45 |
| Chromium (total) | 250 mg/m$^3$ | 0.5 mg/m$^3$ | | n/a | n/a | n/a | 72 |
| Chromium (+6) | **No listing** | | | | | | - |
| Copper {dusts and mists} | 100 mg/m$^3$ | 1 mg/m$^3$ | | n/a | n/a | n/a | 76 |
| Lead | 100 mg/m$^3$ | 0.050 mg/m$^3$ | | n/a | n/a | n/a | 185 |
| Mercury compounds as Hg | 10 mg/m$^3$ | 0.05 mg/m$^3$ [skin] | | n/a | n/a | n/a | 193 |
| Selenium | 1 mg/m$^3$ | 0.2 mg/m$^3$ | | n/a | n/a | n/a | 276 |
| Silver [metal dust as Ag] | 10 mg/m$^3$ | 0.01 mg/m$^3$ | | n/a | n/a | n/a | 280 |
| Zinc | **No listing** | | | | | | - |
| **VOCS** | | | | | | | |
| Carbon tetrachloride | Ca [200 ppm] | 10 ppm | 2 ppm | N/A | N/A | N/A | 55 |
| 1,2 dichloroethylene | 1000 ppm | 200 ppm (790/mg/m$^3$) | - | 5.6% | 12.8% | 36-39° F | 99 |
| 1,1-Dichloroethene (*vinylidene chloride)* | Ca [N.D.] | Ca | | 6.5% | 15.5% | -2° F | 332 |
| Tetrachloroethene | Ca [150 ppm] | Ca 100 ppm | | n/a | n/a | n/a | 301- |
| Trichloroethene *{trichloroethylene}* | Ca [1000 ppm] | Ca OSHA PEL100 ppm | | 8% | 10.5% | ? | 316 |
| Vinyl chloride | Ca N.D. | Ca OSHA PEL 1 ppm | | 3.6% | 33.0% | n/a | 330 |

*ITALICIZED COMPOUNDS ARE CARCINOGENIC* - ***Ca*** - reduce exposure to minimum.

**IDLH - Immediately Dangerous to Life and Health** - represents the maximum concentration from which, in the event of respirator failure, one could escape within 30 minutes without a respirator and without experiencing any impairing or irreversible health effects.

**TWA - Time Weighted Average** - the concentration for a normal 8-hour work day of a 40-hour work week to which nearly all workers may be repeatedly exposed without adverse effect.

**STEL - Short Term Exposure Limit** - a 15 minute, unless otherwise noted, TWA exposure which should not be exceeded at any time during the day.

# - Scan 7 compounds, except Naphthalene, are found in the NIOSH pocket book under the **COAL TAR PITCH** entry. Some of these compounds are human carcinogens, toxic by inhalation in a crystallized form.

## TASK-BY-TASK RISK ASSESSMENT

## TASK DESCRIPTION

Project involves collecting soil samples from soil borings located around the property. Soil borings will be placed at pre-selected locations and advanced using hollow stem auger drilling techniques. Due to the presence of sandstone, shale and other bedrock materials on site, it may be necessary to core the borings to achieve the desired sampling depths. All boreholes will be backfilled prior to leaving the site.

Field screening will be completed utilizing one or more photoionization detectors (PID). The PID(s) will be calibrated on the same day as the field activities, prior to work on site, in accordance with the QAPP and manufacturer's guidelines. The PID will be equipped with an 11.2 ev lamp. This is intended to match the ionization potential of carbon tetrachloride which is 11.47 ev – thus providing a nearly direct reading of carbon tetrachloride. If available, a second PID unit will be equipped with a 10.6 ev lamp which is more traditional in the detection of other VOCs. Thus, monitoring equipment can be used to gauge employee exposure levels and make rational decisions about work practices and levels of protection.

While planning field activities, several samples of ambient air were collected over a period of time to evaluate if under normal conditions, ambient air contained carbon tetrachloride. Samples were collected on a day ideal for detecting contaminants venting from sub-slab (i.e., high temperatures, low humidity and barometric pressure). No carbon tetrachloride was detecting in any of the ambient air samples. Thus, level D protection is considered adequate for "low risk operations" on site including general set up, data recording, management, etc. Level D Protection will be required for all personnel on-site within the work zone, (steel toe work boots, rubber boots, disposable protective gloves, hard hats, safety glasses, dust respirators and hearing protection, if necessary).

Contaminants have been detected at depth, generally beginning to exceed cleanup criteria at a depth of 15 feet below grade. Thus, it is presumed that drilling up to a depth of 15 feet will represent a "medium risk" of exposure. Air monitoring will be conducted to consistently evaluate potential exposures to verify if this presumption remains accurate during field activities. Engineering controls (ventilation) will be employed as an added level of protection to remove air from near the borehole and exhaust it at a downgradient location.

Operations that represent a "high risk" of exposure include extracting drilling auger/coring barrels coming into contact with soil at depths of 15+ feet, opening split spoon sampling equipment and cores from that depth, and decontamination of equipment in contact with soil at that depth. Air monitoring will be used to make judgments about whether engineering controls are adequate for these operations. Self-contained breathing apparatus (SCBA) units will be available on site for temporary use during these high risk operations. The decision to advance to Level B protection will be when the PID equipped with an 11.2 ev lamp consistently detects 10 ppm total VOC in the breathing zone.

**PERSONAL PROTECTIVE EQUIPMENT REQUIRED**

Level D during "low risk" operations. Level D Protection will be required for all personnel on-site within the work zone, (steel toe work boots, rubber boots, disposable protective gloves, hard hats, safety glasses, dust respirators and hearing protection, if necessary). During "medium risk operations", the appropriateness of Level D protection will be affirmed by air monitoring. At a minimum, operations that involve the need to manipulate material that has come into contact with soil at depths of 15+ feet, gloves will be "upgraded" to VITON – a material which has excellent chemical protection capabilities for chlorinated solvents (See attached Glove Selection Report).

Level B protection – consisting of Level D, with VITON gloves and a 30-minute SCBA unit will be used when air monitoring data has shown a high risk of VOCs in the breathing zone. The City of Jackson Fire Department (Interim Chief David Wooden) has agreed to fill empty air tanks if needed. See map for location of Fire Department.

**POTENTIAL HAZARDS/RISKS**

**CHEMICAL: Risk Level is Medium to High**

Justification of Risk Level: Contaminated soil is known to exist at the site and levels in soil potentially may result in exceedances of Permissible Exposure Levels.

**PHYSICAL: Risk Level is Medium**

Justification of Risk Level: Slip, trip, and fall hazards exist. Drilling hazards associated with coring introduce water to the work area which can create additional slip hazards. Depending on the weather, heat stress may also be an issue.

**BIOLOGICAL: Risk Level is Low**

Justification of Risk Level: Exposure to dangerous animals is not expected and poison ivy is unlikely due to the low vegetation on site.

**RADIOLOGICAL: Risk Level is Low**

Justification of Risk Level: No ionizing radiation hazards are known to exist. Non-ionizing hazards will be present in the form of sunlight. Personnel should take precautions for overexposure.

**SAFETY PROCEDURES REQUIRED**

Follow guidance contained in the Envirologic Field Manual available on-site.

**PERSONNEL PROTECTION PLAN**

**Engineering Controls:**

Utilization of a 1100 cfm blower unit. Place intake near the borehole and exhaust downwind of the work area.

**Administrative Controls:**

Personnel will attend daily safety meetings prior to initiation of work.

**Personal Protective Equipment: Action levels for changing levels of protection:**

| PID Reading | Action Level |
|---|---|
| <10 | Level D PPE continue to monitor. |
| 10+ (in breathing zone) | Stop work and move to an upwind location, reevaluate. |
| | If readings remain consistent, upgrade to Level B protection. |

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**Description of Levels of Protection**

**Level D:**

Head: Hard Hat, if necessary

Eye and Face: Safety glasses or goggles if necessary

Hearing: Ear Plugs or muffs, if necessary

Appropriate Work Uniform: Pants, insulating clothing/gear, Reflective Vests

Hand: Appropriate chemical and/or weather resistant gloves (utilize VITON gloves while handling potentially contaminated material such as coring equipment in contact with soil from 15+ feet in depth.

Body: Tyvek, if necessary

Foot: Steel Toe Boots/shoes at all times; rubber over-boots as needed.

Other:

**Level B: (in addition to Level D, add)**

Hand: Viton gloves

Body: Tyvek, if necessary

Respiratory: SCBA unit

**IN CASE of EMERGENCY CONTACT:**

Project Manager and Health and Safety Manager – David Stegink 269-615-1009 (cell)

**AREA MEDICAL AND EMERGENCY FACILITIES:**

**Police ..... 911**
**Fire ..... 911**
**Ambulance ..... 911**
**Poison Control ..... (800) 632-2727**

**Closest Medical Facility:** **W. A. Foote Memorial Hospital**
**205 N. East Avenue**
**Jackson, Michigan**
**(517) 788-4848**

*For Map to Hospital, see Appendix A.*

**Emergency Alert Procedures**

If evacuation is necessary, three long blasts are to be sounded with the vehicle horn. This signal indicates that immediate evacuation of all persons on-site is necessary as a result of some immediate or impending danger. Equipment operators should be advised to shut down and all personnel should evacuate to a safe area. This safe area should be in the predominantly **upwind** direction of the exclusion zone.

**Evacuation Procedures**

In the event of an emergency necessitating evacuation (such as fire, explosion, or significant release of a hazardous substance), all personnel will evacuate the immediate area or the site if necessary. Emergency service providers such as the local fire department police department and/or hospital should be contacted as soon as possible to assist in the handling of the emergency.

**Evacuation Routes and Procedures**

Emergency evacuation routes should be identified prior to the beginning of site activities for each area in which work is performed. This evacuation route should be communicated to all personnel and subcontractors at the pre-construction safety meeting. The evacuation area should be at least 100 feet upwind; 200 feet perpendicular to wind direction; or other area designated as safe by the Project Health and Safety Team Leader. Evacuation routes should be established to prevent isolation of personnel from other portions of the site.

**CONFINED SPACE ENTRY**

Confined space entry for Envirologic personnel is not anticipated to complete the scope of work. Entry into a confined space will not be permitted unless approved by the Project Manager.

**DECONTAMINATION PROCEDURES**

Envirologic will provide decontamination and containment devices for wash water. Decontamination procedures by applicable personnel will be performed in the decontamination area established.

All on-site personnel shall follow these general procedures for proper personal decontamination whenever leaving the work area:

Step 1: Deposit equipment used on-site on plastic drop cloths.

Step 2: Scrub outer boots, outer gloves, and chemical resistant splash suits with decon solution or detergent water.
Rinse off using abundant water.

Step 3: Remove outer boots and gloves.

Step 4: If in Level C - remove respirator.
Avoid touching face with fingers.

Step 5: Thoroughly wash hands and face.
Shower as soon as possible.

If sampling equipment requires decontamination the equipment will be scrubbed in a Liquinox solution and then rinsed with tap and deionized water. Drilling equipment will be decontaminated with a steam cleaner. All decontamination wastes and rinse water will be contained for proper disposal.

**SPILL CONTAINMENT PLAN**

<u>In the event of a spill the following should be observed:</u>

1. Ensure safety of personnel. Sound alarm and pull back to a safe distance up-wind, if necessary. Account for all personnel. Notify project manager.
2. Notify emergency personnel, if necessary.
3. Evaluate situation and determine the appropriate course of action. Perform containment and site control measures as needed, <u>IF</u> it is safe to do so.

<u>In the event of a Fire or Explosion:</u>

1. Ensure safety of personnel. Sound alarm and evacuate to a safe distance up-wind, if necessary. Account for all personnel. Notify project manager.
2. Notify emergency personnel, if necessary.

3. Use fire extinguisher and contain fire, IF it is safe to do so.
4. Standby to inform and direct emergency personnel of materials and conditions.

Fire extinguishers are located in the drilling rig, GeoProbe®, and all field vehicles.

**TRAINING ASSIGNMENTS**

General site workers shall receive a minimum of 40 hours of instruction off the site, and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor. Management and supervisors directly responsible for, or who supervise employees engaged in, hazardous waste operations shall receive 40 hours initial training, three days of supervised field experience, and at least eight additional hours of specialized training at the time of job assignment, on such topics as the safety and health program, personal protective equipment program, spill containment program, and health hazard monitoring procedures and techniques. Additionally, all applicable personnel will receive a minimum of 8 hours refresher training yearly.

All Field Staff also are certified in First Aid and Adult CPR. Applicable personnel will not be permitted to participate in or supervise remediation work activities until they have received training commensurate with their responsibilities.

**PERSONNEL PROTECTIVE EQUIPMENT**

Level D Protection will be required for all personnel on-site within the work zone, (steel toe work boots, rubber boots, disposable protective gloves, hard hats, safety glasses, dust respirators and hearing protection, if necessary). Level C protection, (full-face, air purifying mask equipped with organic vapor/particulate canisters, and Level D clothing), will be utilized as instructed by the site safety manager or at individual worker discretion.

**PPE Use Duration**

At minimum, PPE shall be changed after each work shift. All PPE shall be removed at the first sign of degradation due to chemical reaction. PPE shall be changed if it is physically damaged. Respirator cartridges shall be changed per manufacturer's requirements or breakthrough, whichever comes first.

**PPE Maintenance and Storage**

All PPE shall be inspected before, during and after use. Defective PPE shall be taken out of service. PPE such as respirators shall be inspected and maintained in accordance with Envirologic policy. PPE shall be stored in a clean, dry area. PPE will be stored in the work vehicles.

**PPE Use and Limitations**

All PPE shall be used in accordance with this HASP. PPE used for this project is NOT fire retardant and can not be used in proximity of open fires as a means of personnel protection during fire fighting activities or where the employees may contact hot equipment.

**PPE Training and Fitting**

A review of PPE use and limitations shall be conducted as part of the daily safety briefing. Personnel shall not be assigned to use any form of PPE without first being properly instructed in its use and having completed the training requirements of 29 CFR 1910.120.

Applicable personnel shall be certified, by a physician, as being fit and capable of utilizing and wearing respiratory protective equipment. Refer to the Medical Surveillance Requirement section.

**Evaluation of PPE Program Effectiveness**

The Site Safety Manager shall periodically review the effectiveness of PPE used on this project. Information from personnel, visual observations and periodic inspections shall be conducted to ensure adequacy of the PPE program.

**MEDICAL SURVEILLANCE REQUIREMENTS**

A medical surveillance program is required for monitoring the health status of personnel who are potentially exposed to hazardous substances and who wear respirators 30 days or more per year. Medical surveillance records of on-site personnel are maintained by the Safety Manager, and stored at:

Envirologic Technologies, Inc.
2960 Interstate Parkway
Kalamazoo, Michigan 49048

**SITE CONTROL MEASURES**

Standard Operating Procedures for safe work practices shall be followed at all times. Personnel on-site shall use the "buddy system" at all times. Standard Operating Procedures are found in the Field Safety Manual (orange binder) kept on-site.

Establishment of Work Zones: On-site workers will establish, at a minimum, a Restricted Zone and a Contamination Reduction Zone.

The Restricted Zone is the area where contamination is either known or expected to occur and the greatest potential for exposure exists. The Restricted Zone will include, but is not limited to: the area within a 20' radius of heavy equipment. The Restricted Zone will be delineated and clearly marked by utilizing hazard tape or placards or orange hazard cones. Access to and from the Restricted Zone will be restricted to properly trained workers.

The Contamination Reduction Zone will be defined and provided by Envirologic and will include, but is not limited to the decontamination area.

**RECORD KEEPING**

The master copy of this Site Safety Plan is to be kept in the possession of the Site Safety Manager on-site. Applicable personnel working on the site must sign the master copy. In addition, the site safety manager shall record ambient air monitoring data used to access site conditions. Upon completion of the job, the master copy is to be filed in the project file and retained for a minimum of five years.

All personnel arriving or departing the site will log in and out with the Recordkeeper. All activities on-site must be cleared with the Project Manager. The field crew will be briefed on the contents of this plan at the work site prior to implementing the work plan.

It is also the Field Team Leader's responsibility to properly label all waste containers (barrels).

**AMBIENT AIR MONITORING DATA**
**Complete every ½ hour during operations and at specific depths for each boring**

| Location | Maximum Result (11.2 ev) | Maximum Result (10.6 ev) | Notes* |
|---|---|---|---|
| | | | |
| **Borehole (ground level)** | | | |
| **Borehole (breathing zone)** | | | |
| **Borehole 0-5 feet** | | | |
| **Borehole 5-10 feet** | | | |
| **Borehole 10-15 feet** | | | |
| **Borehole over 15 feet** | | | |
| **Decon Station (breathing zone)** | | | |
| **Exhaust of ventilation** | | | |
| **General downwind locale** | | | |
| | | | |
| **Other: (specify)** | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| **Date and Time:** | | | |
| **Initials:** | | | |

*identify specific operations occurring when monitoring is conducted.

## PRE-WORK SAFETY MEETING CHECKLIST

Project Name: Former Acme Industries, Jackson, MI  Project Number: 100218B

Meeting Conducted by: _____  Date: _____

Attendees: _____

_____

CHECK (☑) TOPICS COVERED DURING SAFETY MEETING

**ADMINISTRATIVE**

___ Location of telephone and emergency numbers
___ Smoking and eating areas
___ Fire extinguisher, eyewash, and First Aid kit on site
___ Potable water, restrooms on site, or location of nearest facilities
___ Emergency alarm signals
___ Emergency evacuation routes and location of posting
___ Hospital and route to hospital
___ Accidents/illnesses/injuries/near misses
___ Location of PHASP (including Appendices)
___ Work zones
___ Buddy system
___ Site control and/or site security
___ First Aid/CPR qualified persons on site
___ Contractor's MSDS collection labeling system and precautionary measures

**PERSONAL PROTECTIVE EQUIPMENT**

___ Respirator protection
___ PPE limitations

**AIR MONITORING**

___ Actions taken when action levels exceeded
___ Air monitoring to be conducted

**DECONTAMINATION (DECON)**

___ DECON area and procedures
___ Containers for contaminated materials

**PHYSICAL HAZARDS ON SITE**

___ Underground/overhead utilities
___ Confined space entry (permit required)
___ Excavation entry (permit required)
___ Water hazards
___ Winter hazards (e.g., ice hazards)
___ Traffic near or on site
___ Noise
___ Slip/trip hazards
___ Overhead hazards
___ Radiation (from radioactive wastes like hospital wastes, etc.)

**CHEMICAL HAZARDS**

___ Hazardous substances on site
___ Symptoms of overexposure
___ Fire and explosion
___ Reactive/unstable
___ Oxygen deficient atmosphere

**BIOLOGICAL HAZARDS**

___ Poisonous vegetation (poison ivy, poison oak)
___ Pests (snakes, rodents, bees, wasps)
___ Animals (dogs, bears)
___ Biological wastes (hospital wastes, animal wastes)

___ **OTHER**
___ Cold stress
___ Hypothermia
___ Frostbite
___ Heat stress
___ Availability of warm fluids
___ Availability of shade

NA = Not Applicable

**EMPLOYEE/SUBCONTRACTOR VERIFICATION**

This information has been reviewed prior to commencement of the above described activities. The following personnel were informed of the known hazards at the site and acknowledge receipt of this information:

| NAME | COMPANY | DATE |
|---|---|---|

**APPENDIX A**

**Route to Hospital**

**Location of Fire Department**

bing Maps

**600 N Mechanic St, Jackson, MI 49202-3343**

**205 N East Ave, Jackson, MI 49201-1753**

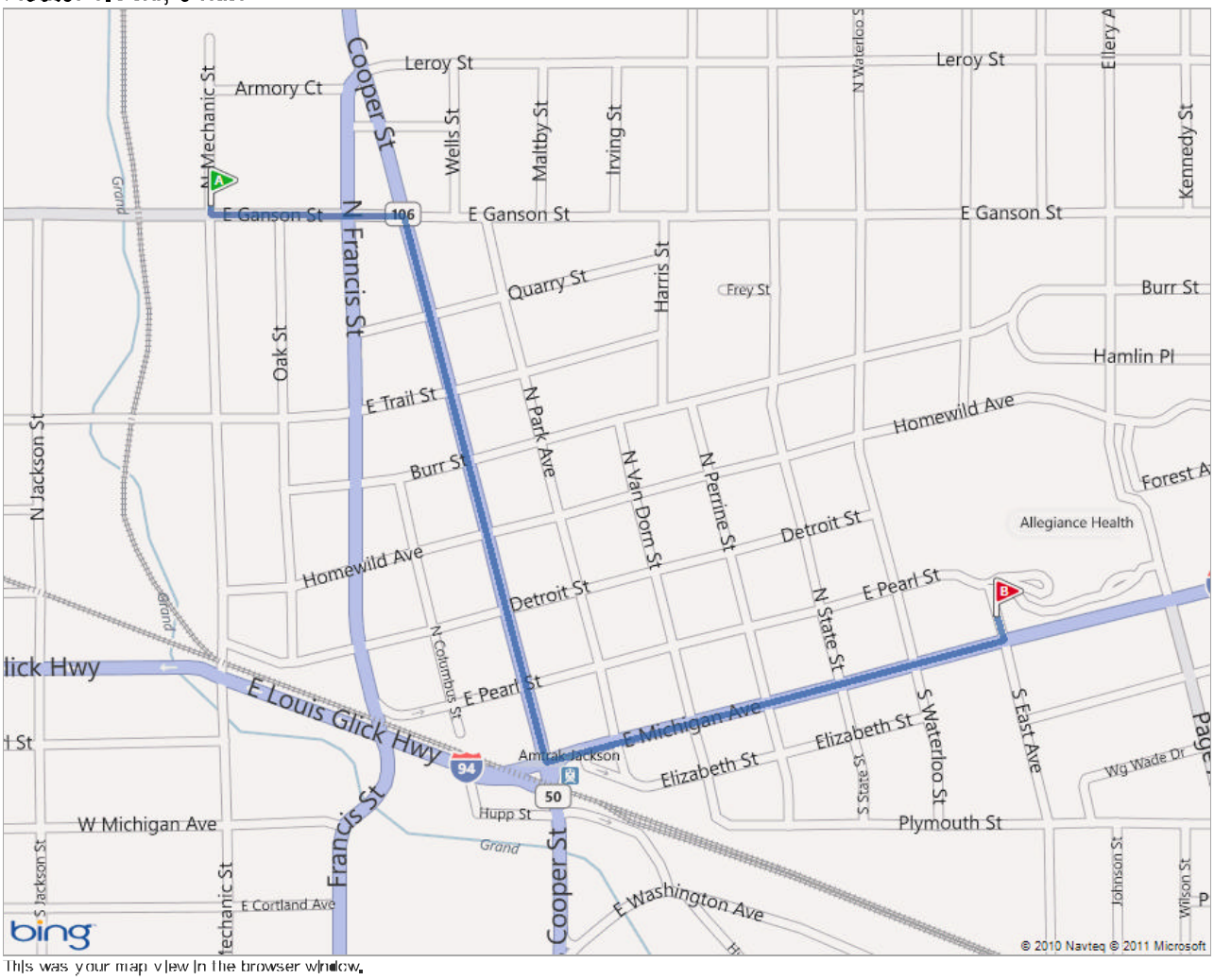
Route: **1.1 mi, 6 min**

My Notes



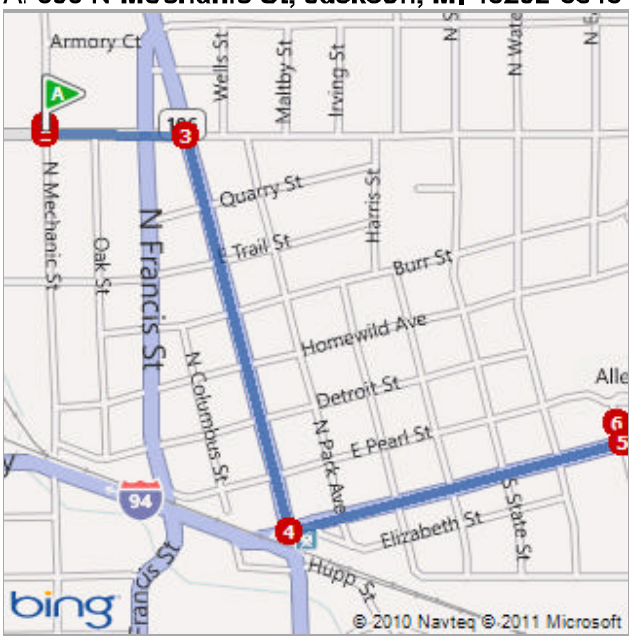
| | | |
|---|---|---|
| | **600 N Mechanic St, Jackson, MI 49202-3343** | **A–B: 1.1 mi** 6 min |
| | 1. Depart **N Mechanic St** toward W Ganson St | 49 ft |
| | 2. Turn **left** onto **E Ganson St** | 0.2 mi |
| | 3. Turn **right** onto **M-106 / Cooper St** | 0.5 mi |
| | 4. Turn **left** onto **I-94 / E Michigan Ave** | 0.4 mi |
| | 5. Turn **left** onto **N East Ave** | 118 ft |
| | 6. Arrive at **205 N East Ave, Jackson, MI 49201-1753**<br>*The last intersection is I-94 / E Michigan Ave*<br>*If you reach S Jackson Sq, you've gone too far* | |

Route: **1.1 mi, 6 min**

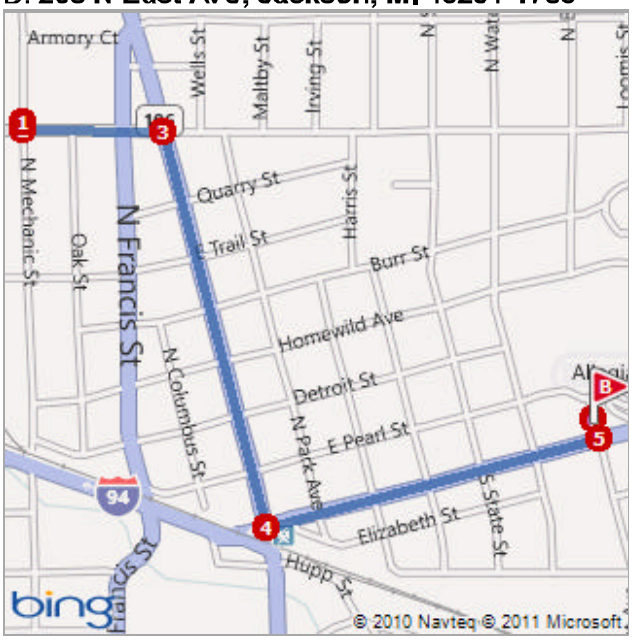



This was your map view in the browser window.

A: **600 N Mechanic St, Jackson, MI 49202-3343**




B: **205 N East Ave, Jackson, MI 49201-1753**



bing Maps

**600 N Mechanic St, Jackson, MI 49202-3343**

**518 N Jackson St, Jackson, MI 49201-1223**

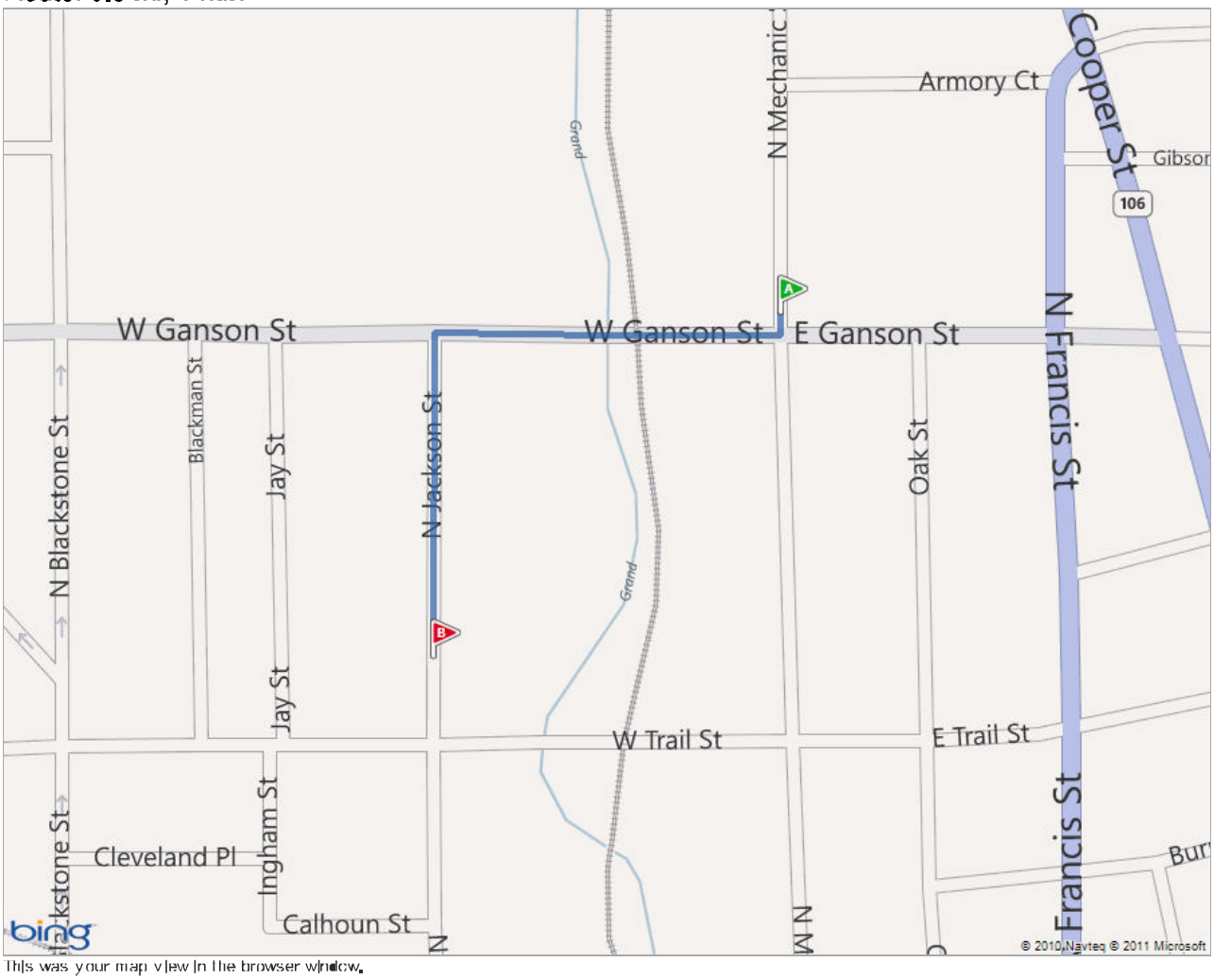
Route: **0.3 mi, 1 min**

My Notes



| | | |
|---|---|---|
| **600 N Mechanic St, Jackson, MI 49202-3343** | | **A–B: 0.3 mi** 1 min |
| 1. | Depart **N Mechanic St** toward W Ganson St | 49 ft |
| 2. | Turn **right** onto **W Ganson St** | 0.1 mi |
| 3. | Turn **left** onto **N Jackson St** | 0.1 mi |
| 4. | Arrive at **518 N Jackson St, Jackson, MI 49201-1223**<br>*The last intersection is W Ganson St*<br>*If you reach W Trail St, you've gone too far* | |

Route: **0.3 mi, 1 min**

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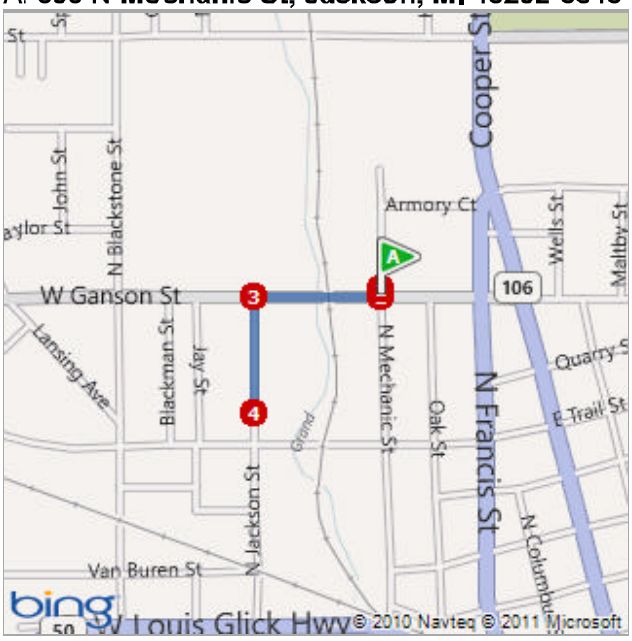
A: **600 N Mechanic St, Jackson, MI 49202-3343**




B: **518 N Jackson St, Jackson, MI 49201-1223**

# APPENDIX B

# GLOVE SELECTION REPORT

# Best® Viton® Gloves

**100% FLUOROELASTOMER GLOVE**
**CHEMICAL-RESISTANT GLOVE**
**890 / 892**

## Chemical Resistant Glove:

### Characteristics:

| Style | Description | Length |
|---|---|---|
| 892-07, 08, 09, 10, 11 | 12 mils, Smooth | 12” |
| 890-09, 10 | 28 mils, Smooth | 14” |

Viton **#892 & 890 Mechanical Risk Performance**

**Cat. III**

CE

0120

EN 388

0120

**Performance Levels:**
Abrasion: Level 0-4
Cut Resistance: Level 0-5
Tear: Level 0-4
Puncture: Level 0-4

**Viton # 892 Chemical Resistance**

EN-374-1

(Toluene)
0 1 2 3 4 5 **6**
(Sodium Hydroxide 40%)
0 1 2 3 4 5 **6**
(Hydrochloric Acid 37%)
0 1 2 3 4 5 **6**

**Viton #890 Chemical Resistance**

EN-374-1

(Methylene Chloride)
0 1 2 3 **4** 5 6
(Toluene)
0 1 2 3 4 5
(Sulfuric Acid 96%)
0 1 2 3 4 5

## ANSI/ISEA 105-2005 Performance

| Abrasion | Cut Resistance | Puncture |
|---|---|---|
| 0 1 **2** 3 4 5 6 | **0** 1 2 3 4 5 | **0** 1 2 3 4 5 |

## Description

Best® Viton® Fluoroelastomer rubber provides superior resistance to highly corrosive acids and is excellent for handling aliphatic and aromatic hydrocarbons. This synthetic rubber provides the highest permeation resistance to high molecular aromatic hydrocarbons such as Benzene, Toluene, Xylene and Polychlorinated Biphenyls (PCBs) of any protective material used to make gloves. Viton provides the ultimate combination of protection and dexterity.

### Suggested Applications

- Military Applications
- Acids and Caustics
- Chlorinated Solvents
- Fuels
- Hazmat Spill Kits
- Aromatics Protection
- Level A Suit Ensembles
- PCBs

This list of suggested applications is partial and based on laboratory testing of glove performance. For a complete list of suggested applications, visit our website:
www.showabestglove.com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